

REMARKS

Claims 1 and 2 were rejected under 35 USC section 102(b) as being anticipated by Perkin et al., United States patent number 5,142,128. Applicants' attorney has reviewed the Examiner's office action mailed February 24, 2005, and, United States patent number 5,142,128 and unfortunately does not understand the basis for the rejection. In an effort to enhance the clarity of claim 1, claim 1 has been amended to clarify a preferred operation of the drilling monitoring device. Claim 1 has not been amended for any purpose related to patentability. The rejection of claims 1 and 2 under 35 USC 102(b) will be discussed hereinafter.

As the Examiner is aware, a rejection under 35 USC § 102(b) requires the claimed invention to be identically described in a single prior art reference. In this regard, it is Applicants' position that Perkin et al. does not teach a "drilling monitoring device", or a "means for monitoring a drilling device" as recited in claims 1 and 2.

As background, the cost of oil field equipment is relatively high. Accordingly, it is desirable to optimally use and/or reuse many pieces of oil field equipment for subsequent drilling and development operations. However, equipment undergoes considerable stress during drilling and completion operations. For example, pieces of oil field equipment such as drill pipe may suffer from material fatigue which may ultimately result in failure of the drill

pipe. The failure of downhole equipment will require a suspension of drilling operations to recover the remainder of the drill string and other related equipment. It will be appreciated that the recovery of a drill string can be an expensive and time-consuming operation, which should be avoided if possible.

The Applicants agree with the Examiner that the invention in United States patent number 5,142,128 maintains usage histories of various oil field equipment by affixing a portable encapsulated passive circuit capable of transmitting an identification code to a piece of oil field equipment. The passive circuit is activated by a portable handheld reader which receives and decodes the identification code and transmits it to a central computer. The central computer verifies the reader and the existence of the equipment in a database retrieving the usage history for the equipment. Based on the usage history and the prospective application guidelines for usage of equipment, the computer determines the advisability of using the equipment in the prospective application and transmits a recommendation back to the portable handheld reader.

As discussed in the prior response, Perkin et al. did not specifically address the maintaining of cumulative rotating and non-rotating usage of each piece of oil field equipment in a drill string as specified in Applicant's independent claims 1 and 2.

Perkin et al. does not disclose a drill monitoring device or a means for

outputting as those terms are understood by applicants' attorney in view of the written description. However, it appears from the Office Action that the Examiner is interpreting the "drill monitoring device" of claim 1 and the "means for outputting" of claim 2, as the software running on the central computer described in United States patent number 5,142,128. In this regard, the Examiner stated "the Examiner notes that maintaining the information related to service history is equivalent to monitoring".

Further, in support of the rejection, the Examiner cites column 2, lines 33-34 of United States patent number 5,142,128 which recites:

"the reader relays the circuit transmission to a central computer. The central computer receives the information from the reader and accesses a computer database which maintains information relating to the service history for various pieces of oil field equipment".

In this regard, it appears that the Examiner is equating the reader of United States patent number 5,142,128 with the drilling monitoring device and the means for outputting recited in claims 1 and 2. Is the Examiner equating the drill monitoring device and the means for outputting with the database, or the reader?

In either case, it is believed that United States patent number 5,142,128 does not disclose the inventive concept of claims 1 and 2. That is, claim 1 specifically recites:

a drilling monitoring device constantly detecting

movement of a drilling device associated with the drill string by automatically receiving input signals indicative of at least one of rotating and non-rotating usage of the drill string and outputting real-time signals to the computer

The reader does not detect movement of a drilling device by automatically receiving input signals indicative of at least one of rotating and non-rotating usage of the drill string. The reader merely reads the unique identification code from the encapsulated circuit and provides such unique identification code to the central computer.

The database does maintain usage histories of the oilfield equipment. However, Perkin et al. does not teach any device or software which detects movement of a drilling device associated with the drill string by automatically receiving input signals indicative of at least one of rotating and non-rotating usage of the drill string and outputting real-time signals to the computer. Should the Examiner have any questions regarding the foregoing, a telephonic interview would be welcomed.

Claim 2 specifically recites:

means for monitoring a drilling device ~~driving the drill string~~ and outputting signals to the computer wherein the computer continuously and automatically monitors the cumulative rotating usage and non-rotating usage of each piece of oilfield equipment identified in the drill string.

This element of claim 2 is in "means plus function" format and thus invokes the requirements of 35 USC § 112, paragraph 6 – reciting – "such claim

shall be construed to cover the corresponding structure, material or acts described in the specification and equivalents thereof.” The structure recited in the specification for performing this function is described as a tachometer communicating with the drilling device, or a reference stored within the central computer identifying the drilling device as a downhole mud motor so that the central computer can accurately log the non-rotating usage of each piece of oilfield equipment included in the drill string that suspends the drilling device. See paragraphs 0050 and 0051 of the present patent application, for example. Where does Perkin et al. teach or suggest a tachometer sending signals to the central computer, for example? Where does Perkin et al. teach or suggest storing a type of drilling device, and the subsequent use of this information to only log cumulative non-rotating usage, for example?

In light of the foregoing, Applicants respectfully submit that United States patent number 5,142,128 does not teach or even suggest the invention recited in claims 1 and 2 of the present patent application, as amended. Reconsideration and withdrawal of the rejection of claims 1 and 2 is respectfully requested.

The foregoing is intended to be complete response to the office action mailed February 24, 2005. Should the Examiner have any questions or comments regarding the foregoing, the applicant's attorney would welcome a telephonic interview with the Examiner.

Respectfully submitted,



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